

WHAT IS CLAIMED IS:

1           1. A composition comprising a peptide having the  
2 formula R'-Glx-Glx-Lys-R" or a pharmaceutically acceptable  
3 salt thereof;

4           wherein Glx is Glu or Gln; R' is H- or a first amino  
5 acid sequence having fewer than 7 amino acids; R'' is -H or a  
6 second amino acid sequence having fewer than 7 amino acids;  
7 and the peptide has a sequence of at least 5 and not more than  
8 9 amino acids.

1           2. The composition of claim 1, wherein R' is  
2 H-, Thr-Ala-, Thr-Pro-, Ser-Ala-, Ser-Pro-, Ser-Ser-,  
3 Met-Leu-Thr-Ala-, or Leu-Thr-Ala-; and R" is -H, -Ala,  
4 -Ala-Ala or -Ala-Val.

1           3. A composition of claim 2, wherein the peptide  
2 is L-Thr-L-Pro-L-Glu-L-Glu-L-Lys.

1           4. A composition of claim 2, wherein the peptide  
2 is L-Thr-L-Ala-L-Glu-L-Glu-L-Lys.

1           5. A pharmaceutical preparation comprising:  
2 a peptide having the formula R'-Glx-Lys-R" or a  
3 pharmaceutically acceptable salt thereof, wherein Glx is Glu  
4 or Gln; R' is H- or a first amino acid sequence having fewer  
5 than 7 amino acids; R'' is -H or a second amino acid sequence  
6 having fewer than 7 amino acids; and the peptide has a  
7 sequence of at least 2 and not more than 9 amino acids; and  
a physiologically acceptable carrier.

1           6. The pharmaceutical preparation of claim 5,  
2 wherein R' is H-, Glx-, Thr-Ala-Glx-, Thr-Pro-Glx-,  
3 Ser-Ala-Glx-, Ser-Pro-Glx-, Ser-Ser-Glx-, Met-Leu-Thr-Ala-Glx-  
4 , or Leu-Thr-Ala-Glx-; and R" is -H, -Ala, -Ala-Ala or  
5 -Ala-Val.

1           7. The pharmaceutical preparation of claim 6,  
2 wherein the peptide is L-Glu-L-Lys.

1           8. The pharmaceutical preparation of claim 6,  
2 wherein the peptide is L-Thr-L-Pro-L-Glu-L-Glu-L-Lys.

1           9. A composition of claim 6, wherein the peptide  
2 is L-Thr-L-Ala-L-Glu-L-Glu-L-Lys.

1           10. A method for modulating the activity of a  
2 host's immune system, comprising administering to the host a  
3 peptide having the formula R'-Glx-Lys-R" or a pharmaceutically  
4 acceptable salt thereof, wherein Glx is Glu or Gln; R' is H-  
5 or a first amino acid sequence having fewer than 7 amino  
6 acids; R'' is -H or a second amino acid sequence having fewer  
7 than 7 amino acids; and the peptide has a sequence of at least  
8 2 and not more than 9 amino acids.

1           11. A method as in claim 10, wherein R' is H-, Glx-  
2 , Thr-Ala-Glx-, Thr-Pro-Glx-, Ser-Ala-Glx-, Ser-Pro-Glx-,  
3 Ser-Ser-Glx-, Met-Leu-Thr-Ala-Glx-, or Leu-Thr-Ala-Glx-; and  
4 R" is -H, -Ala, -Ala-Ala or -Ala-Val.

1           12. A method as in claim 11, wherein the peptide is  
2 L-Thr-L-Ala-L-Glu-L-Glu-L-Lys or L-Glu-L-Lys.

1           13. A method as in claim 10, wherein the peptide is  
2 administered in a physiologically acceptable carrier.

1           14. A method for treating an infection in a host,  
2 comprising administering to the host a peptide having the  
3 formula R'-Glx-Lys-R" or a pharmaceutically acceptable salt  
4 thereof, wherein Glx is Glu or Gln; R' is H- or a first amino  
5 acid sequence having fewer than 7 amino acids; R'' is -H or a  
6 second amino acid sequence having fewer than 7 amino acids;  
7 and the peptide has a sequence of at least 2 and not more than  
8 9 amino acids.

1 15. The method as in claim 14, wherein R' is H-,  
2 Glx-, Thr-Ala-Glx-, Thr-Pro-Glx-, Ser-Ala-Glx-, Ser-Pro-Glx-,  
3 Ser-Ser-Glx-, Met-Leu-Thr-Ala-Glx-, or Leu-Thr-Ala-Glx-; and  
4 R" is -H, -Ala, -Ala-Ala or -Ala-Val.

1 16. The method as in claim 14, wherein the peptide  
2 is L-Thr-L-Ala-L-Glu-L-Glu-L-Lys or L-Glu-L-Lys.

1 17. The method as in claim 14, wherein the  
2 infection is a bacterial infection.

1 18. The method as in claim 17, further comprising  
2 administering an antibiotic to the host.

1 19. The method as in claim 14, wherein the  
2 infection is a viral infection.

1 20. The method as in claim 19, further comprising  
2 administering an anti-viral agent to the host.

1 21. The method as in claim 14, wherein the  
2 infection is a fungal infection.

1 22. The method as in claim 21, further comprising  
2 administering an anti-fungal agent to the host.

1 23. The method as in claim 14, wherein the  
2 infection is a parasitic infection.

1 24. The method as in claim 23, further comprising  
2 administering an anti-parasitic agent to the host.

1 25. The method as in claim 14, wherein the peptide  
2 is administered intravenously, intramuscularly, intrathecally,  
3 subcutaneously, intraperitoneally, intranasally, orally,  
4 intrabronchially, rectally, or topically.

1           26. A method for treating atopic states in a host  
2 comprising administering to the host a peptide having the  
3 formula R'-Glx-Lys-R" or a pharmaceutically acceptable salt  
4 thereof, wherein Glx is Glu or Gln; R' is H- or a first amino  
5 acid sequence having fewer than 7 amino acids; R'' is -H or a  
6 second amino acid sequence having fewer than 7 amino acids;  
7 and the peptide has a sequence of at least 2 and not more than  
8 9 amino acids.

1           27. The method as in claim 26, wherein R' is H-,  
2 Glx-, Thr-Ala-Glx-, Thr-Pro-Glx-, Ser-Ala-Glx-, Ser-Pro-Glx-,  
3 Ser-Ser-Glx-, Met-Leu-Thr-Ala-Glx-, or Leu-Thr-Ala-Glx-; and  
4 R" is -H, -Ala, -Ala-Ala or -Ala-Val.

1           28. The method as in claim 27, wherein the peptide  
2 is L-Thr-L-Ala-L-Glu-L-Glu-L-Lys or L-Glu-L-Lys.

1           29. A method of treating leukocytic disorders in a  
2 host comprising administering to the host a peptide having the  
3 formula R'-Glx-Lys-R" or a pharmaceutically acceptable salt  
4 thereof, wherein Glx is Glu or Gln; R' is H- or a first amino  
5 acid sequence having fewer than 7 amino acids; R'' is -H or a  
6 second amino acid sequence having fewer than 7 amino acids;  
7 and the peptide has a sequence of at least 2 and not more than  
8 9 amino acids.

1           30. A method for augmenting vaccinations in a host  
2 comprising administering to the host a peptide having the  
3 formula R'-Glx-Lys-R" or a pharmaceutically acceptable salt  
4 thereof, wherein Glx is Glu or Gln; R' is H- or a first amino  
5 acid sequence having fewer than 7 amino acids; R'' is -H or a  
6 second amino acid sequence having fewer than 7 amino acids;  
7 and the peptide has a sequence of at least 2 and not more than  
8 9 amino acids.